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(54) Title: MATCHING ENGINE

## (57) Abstract

A method of identifying the best matches or sets of matches between a query item and an item or items from a data set. The method includes the steps of: (i) providing a data representation for each item in the data set; (ii) providing a query representation of the query item; (iii) defining a transformation space; (iv) for each of a number of regions spanning the entire transformation space, determining an upper bound to the probability of a match between the query representation and a data representation under any transformation in the region; (v) determining a threshold probability; (vi) comparing the upper probability bound of each region with the threshold probability; and (vii) determining regions having an upper probability bound greater than the threshold probability, so as to identify solution regions.